

Product Profile

Identification

Product Name: POLY(ETHYLENE GLYCOL) OR POLY(ETHYLENE OXIDE), A, Ω -BIS(HYDROXY)-TERMINATED

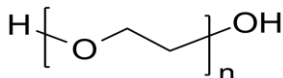
Synonym(s): PEO, PEG

Linear Formula: H(OCH₂CH₂)_nOH

CAS: 25322-68-3

Product Lot Number: P44491B-EG2OH (PEO)

Product Chemical Architecture:



Composition:

Mn (g/mole)	40,000
MW (g/mole)	43,500
Mw/Mn	1.10
dn/dc (mL/g)	0.132 in water

Method of Synthesis

The polymer is prepared by anionic polymerization process using dipotassium salt of ethylene glycol.

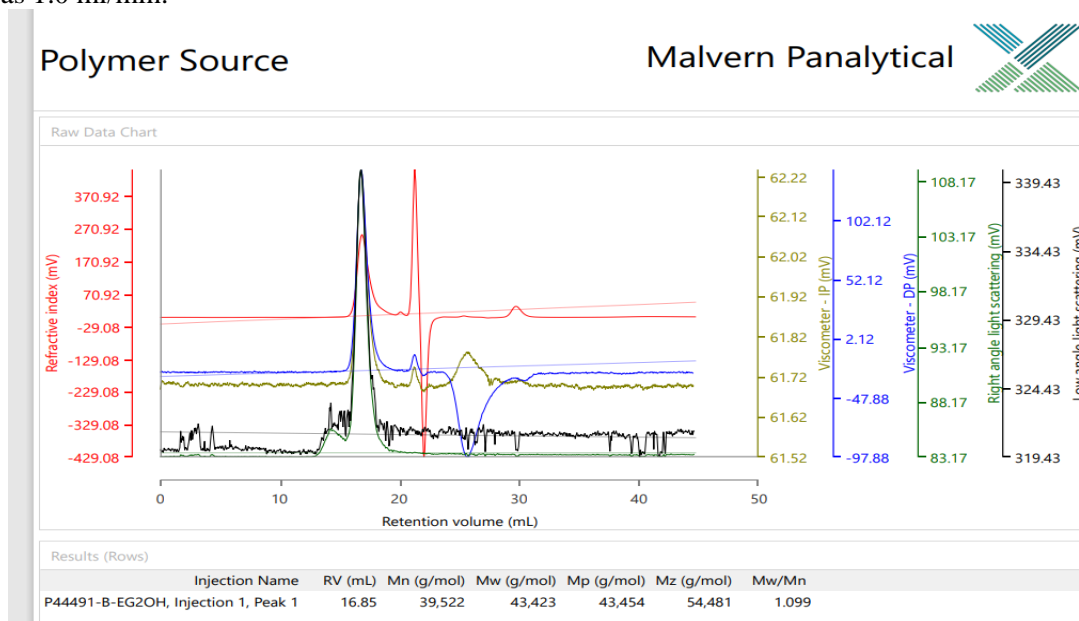
Solubility in different solvents

THF	√	DMF	√
Methanol	√	CHCl ₃	√
Toluene	X	DMSO	√

Validation of Architecture

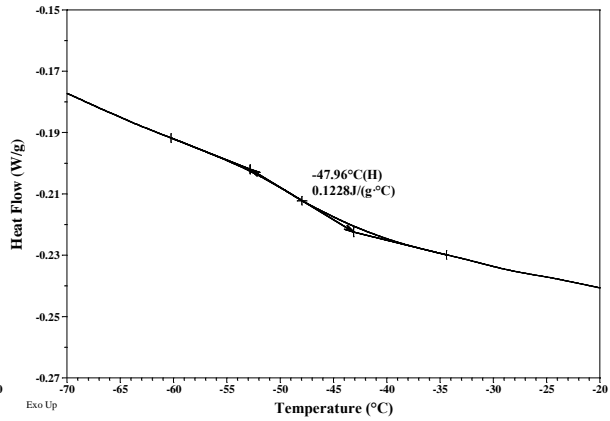
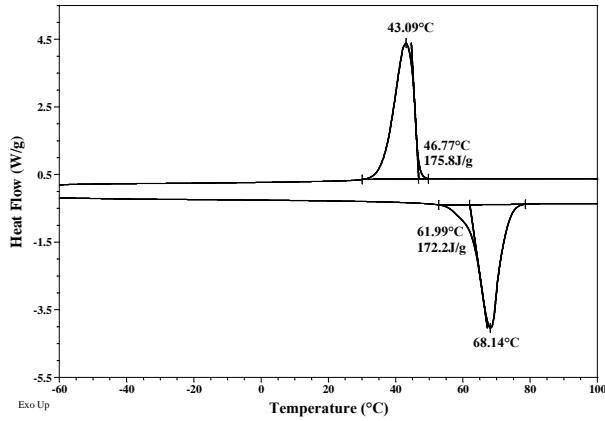
A. Gel Permeation Chromatography (GPC), SEC- Profile:

Molecular weights were determined by Malvern OmniSec Reveal & Resolve GPC/SEC System equipped with Triple detector (RI, Viscometer, RALS 90° and LALS 7°) and two columns (A600M General Mixed 300×7.5 mm, Viscotek). 0.25 M NaNO₃ + 0.01M NaH₂PO₄ (PH=7) in water was the eluent. The flow rate was 1.0 ml/min.



B. Thermal analysis results:

Sample	T_m (°C)	T_c (°C)	T_g (°C)
Typical PEO sample (Mn below 50k Da)	68	43	-48



C. NMR (HNMR) OF PEO in DMSO, general

